

~~the said upper standard fill time by a second threshold amount of time to identify a large leak, wherein different alarms may be activated in response to different types of leaks.~~

Claim 2. (amended) The apparatus of Claim 1 wherein ~~said the toilet reservoir has an inlet valve with a refill tube assembly therein, an overflow pipe and an opening in the reservoir for a flapper for controlling water flow from the reservoir, and the water flow sensor is adapted to detect leaks as a result of a leaking inlet valve as well as leaks between the flapper and the opening in the reservoir.~~

Claim 3. (amended) The apparatus of Claim 1 wherein ~~said the toilet reservoir has an inlet valve with a refill tube assembly therein, an overflow pipe and an opening in the reservoir for a flapper for controlling water flow from the reservoir, and the water flow sensor is configured to be received and retained within the an overflow pipe.~~

Claim 4. (amended) The apparatus of Claim 1 wherein ~~said the toilet reservoir has an inlet valve with a refill tube assembly therein, an overflow pipe and an opening in the reservoir for a flapper for controlling water flow from the reservoir, and the water flow sensor is positioned adjacent to the exterior of the overflow pipe, and both said water flow sensor and the overflow pipe to receive water from the refill tube assembly.~~

Claims 5-21 (cancelled)

Claim 22. (amended) A method for providing leak detection and reporting comprising the following steps:

~~calculating determining a standard fill time for filling a toilet reservoir with water;~~
~~calculating determining a lower time threshold and an upper time threshold based upon said standard fill time;~~

_____ activating a first alarm when a subsequent fill time is below said lower time threshold to identify a slow leak; or

_____ activating a second alarm if a subsequent fill time is above said upper time threshold to identify a faster leak, ~~wherein different alarms may be activated in response to different types of leaks.~~

Claim 23. The method of Claim 22 wherein either of said activating steps is performed as a result of detecting a leaking inlet valve or a leak between a flapper in an opening in the reservoir.

Claim 24. The method of Claim 22 wherein water passes through a water flow sensor to perform said step of calculating said standard fill time.

Claim 25. The method of Claim 22 wherein water contacts a water flow sensor to perform said step of calculating said standard fill time.

Claim 26. (amended) The method of Claim 22 wherein said step of calculating determining said standard fill time is performed by measuring water flow through at least a portion of an overflow pipe in a reservoir of a toilet.

Claim 27. (amended) The method of Claim 22 wherein said step of calculating determining said standard fill time is performed by measuring water flow from a refill tube assembly which passes through at least a portion of an overflow pipe in a reservoir of a toilet.

Claim 28. (amended) The method of Claim 22 wherein said step of calculating determining said standard fill time is performed by measuring water flow from a refill tube assembly in a reservoir of a toilet.

Claim 29. The method of Claim 22 further comprising the step of sending said alarms to a remote device.

Claim 30. The method of Claim 22 further comprising the step of providing a resistance threshold for comparison with a resistance measured between a pair of contacts in order to determine when water flow exists in a water flow sensor having said contacts.

Claim 31. The method of Claim 30 wherein said resistance measured between said contacts must exceed said resistance threshold to indicate water flow through said water flow sensor.

Claim 32. The method of Claim 30 wherein said resistance measured between said contacts must be below said resistance threshold to indicate water flow through said water flow sensor.

Claims 33-38. (cancelled)

Claim 39. (new) An apparatus for providing leak detection within a toilet reservoir; said apparatus comprising:

a water flow sensor; and

a timing module coupled to the water flow sensor and in cooperation with the water flow sensor, the timing module being operative to:

receive a standard fill time required to properly fill the reservoir following a flush;

activate an alarm if the water flow sensor detects water flow for a period of time that is outside of a threshold of the standard fill time.

Claim 40. (new) The apparatus of claim 39, wherein the timing module is operative to receive a standard fill time by:

entering into a calibration mode;
during the calibration mode, measuring the time that water flow is sensed during a
flushing operation; and
storing the time as a standard fill time.

Claim 41. (new) The apparatus of claim 40, wherein during the calibration mode, the
timing module is further operative to calculate a slow-leak time threshold based at least in part on
the standard fill time, the slow-leak time threshold being substantially shorter than the standard
fill time.

Claim 42. (new) The apparatus of claim 40, wherein during the calibration mode, the
timing module is further operative to calculate a fast-leak time threshold based at least in part on
the standard fill time, the fast-leak time threshold being substantially longer than the standard fill
time.

Claim 43. (new) The apparatus of claim 40, wherein during the calibration mode, the
timing module is further operative to:

calculate a slow-leak time threshold based at least in part on the standard fill time, the
slow-leak time threshold being substantially shorter than the standard fill time; and

calculate a fast-leak time threshold based at least in part on the standard fill time, the fast-
leak time threshold being substantially longer than the standard fill time.